CLAIMS

In the claims:

1. A device management system, comprising:

a plurality of devices, wherein each said device is adapted to perform a device function, wherein each said device function is associated with an input parameter and an output parameter, wherein each said input parameter includes a range of potential input values, wherein each said output parameter includes a range of potential output values, wherein each said output parameter is determined by and associated with at least one said input parameter; and

a configuration component, said configuration component including an input matrix comprising said input values corresponding to said input parameters, wherein said input values are selected and set from said range of potential input values to result in a desired said output value within said range of potential output values, wherein said input matrix is created through a software application.

2. The system of claim 1, wherein said input matrix is modified through said software application.

3. The system of claim 1, wherein said plurality of devices include a plurality of programmable logic devices, and wherein said plurality of programmable logic devices are located on a vehicle.

4. The system of claim 3, further comprising a plurality of vehicles and a plurality of configuration components, wherein said plurality of vehicles includes a first vehicle type and a second vehicle type, wherein said plurality of configuration components are substantially identical except for a plurality of configurable characteristics that are configurable through said software application.

5. The system of claim 3, wherein said vehicle includes only one said configuration component.

6. The system of claim 1, wherein said plurality of device functions includes at least two of: a body control function, an engine control function, a transmission control function, a power seat function, a door function, an instrument cluster function, an environmental function, an overhead console function, and a power function.

7. The system of claim 6, wherein said plurality of device functions include a body control function, an engine control function, a transmission control function, a power seat function, a door function, an instrument cluster function, an environmental function, an overhead console function, and a power function.

8. The system of claim 1, wherein said configuration component further includes an output matrix and a custom feature matrix.

9. The system of claim 8, wherein said input matrix, said output matrix, and said custom feature matrix are configured to replace a plurality of nested if statements in a plurality of programming code invoked to perform said device functions.

10. The system of claim 8, said custom feature matrix including a plurality of feature values, wherein said output values are stored in said output matrix, wherein said plurality of feature values are stored in said feature matrix, wherein said output values are generated from said corresponding input values in said input matrix and said corresponding feature values in said feature matrix.

11. The system of claim 8, wherein said input matrix and said output matrix are set dynamically.

12. The system of claim 8, wherein said feature matrix is a static feature table.

13. The system of claim 1, wherein said plurality of device functions includes a first device function and a second device function, wherein said plurality of input parameters includes a first input parameter corresponding to said first device function and a second input parameter corresponding to said second device function, wherein the setting of

said first input parameter changes the range of potential input values for said second device function.

14. The system of claim 13, wherein said plurality of devices includes a first device and a second device, wherein said first device function is associated with said first device and wherein said second device function is associated with said second device.

15. A device management system, comprising:

a hardware layer, said hardware layer including a plurality of devices, wherein each said device is configured to perform a device function using a configuration value, wherein each said device function is configured to modify performance of said device function in accordance with said configuration values;

an interaction layer, said interaction layer including a plurality of controls, wherein said plurality of controls provide for capturing a plurality of user interaction attributes that provide for invoking, configuring, and modifying said plurality of device functions; and

a virtual layer, said virtual layer including a cross-reference component for identifying said device values that correspond to said user interaction attributes, wherein said virtual layer receives said plurality of user interaction attributes, wherein said virtual layer selectively identifies one or more said device values that correspond in said cross-reference component to one or more said user interaction attributes, wherein said virtual layer transmits said one or more user interaction attributes to said hardware layer.

16. The system of claim 15, wherein said cross-reference component includes an input table, an output table, and a feature table, wherein said input table, said output table, and said feature table substitute for a nested-if statement within a plurality of source code included in at least one said device function.

17. The system of claim 16, wherein said feature table is a static feature table, wherein said input table is a dynamic input table, and wherein said output table is a dynamic output table.

18. The system of claim 15, wherein said plurality of devices are located within a single vehicle, and wherein said plurality of device functions include at least three of a body control function, a transmission control function, a power seat function, a door function, an instrument cluster function, an environmental function, and a power function.

19. The system of claim 15, wherein said cross-reference component is configured to be modifiable while located within a vehicle.

20. The system of claim 15, wherein said system is portable into a plurality of different vehicle types.

21. An embedded computer, comprising:

a plurality of output lines, wherein said plurality of output lines provide for transmitting a plurality of configuration attributes to a plurality of devices;

a plurality of input lines, wherein said plurality of input lines provide for capturing a plurality of interaction attributes;

a configuration component, wherein said configuration component is configured to receive at least one said interaction attribute, and wherein said configuration component is adapted to generate at least one said configuration attribute from at least one said received interaction attribute, and wherein said configuration component provides for transmitting said configuration attribute to at least one said output line.

22. The embedded computer of claim 21, wherein the implementing of said configuration component into said embedded computer removes a nested-if statement in a programming code line in said embedded computer.

23. The embedded computer of claim 21, wherein said configuration component is configured before said embedded computer is installed into a vehicle.

24. The embedded computer of claim 21, wherein said configuration component is configured after said embedded computer is installed into a vehicle.

25. The embedded computer of claim 21, wherein said embedded computer provides for being moved from a first vehicle into a second vehicle without changing a plurality of programming code located in said embedded computer.

26. The embedded computer of claim 25, wherein the only change to said embedded computer is to said configuration component.

27. A configuration system, comprising:

a functionality subsystem, wherein said functionality subsystem includes a plurality of functions, wherein each said function includes a function input variable and a function output variable;

an interactions subsystem, wherein said interactions subsystem includes a plurality of interface interactions;

a conversion subsystem, wherein said conversion subsystem is configured to generate at least one said function input variable from at least one said interface interaction and a device status, and wherein said functionality subsystem receives at least one said function input variable and generates at least one said function output variable from said function input variable and said device status.

28. The system of claim 27, wherein said conversion subsystem includes a dynamic input state table, a static custom feature table, and a dynamic output state table.

29. The system of claim 27, wherein said system is configured for implementation in a first vehicle and a second vehicle without requiring a change in a plurality of programming code lines included in said system.

30. The system of claim 29, wherein only said conversion subsystem is modified.

31. The system of claim 27, further including a plurality of user interactions, including at least two of: a shifting of a transmission, a locking of a door, an unlocking of a door, a

turning on of a consumer electronic device, a setting of a speed value of a speed control, a moving of a seat, an opening of a window, and a closing of a window.

32. A method for installing a plurality of devices in a vehicle, comprising:

fastening the plurality of devices onto the vehicle, wherein the plurality of devices are configured to receive data from an output table;

defining a static feature table that includes a plurality of relationships between a plurality of states and a plurality of functions;

creating a dynamic input table that is adapted to receive a plurality of attribute values relating to a plurality of functions to be performed by the plurality of devices;

creating a dynamic output table that is adapted to be populated with data using the static feature table and the dynamic input table;

loading the static feature table, the dynamic input table, and the dynamic output table onto an embedded computer; and

installing an embedded computer into the vehicle.

33. The method of claim 32, wherein a plurality of embedded computers are installed into a plurality of different vehicle types, wherein a first embedded computer is loaded into a first vehicle and a second embedded computer is loaded into a second vehicle, and wherein the only difference between the first embedded computer and the second embedded computer is the static feature table.

34. The method of claim 32, wherein the embedded computer includes no nested-if statements relating to a plurality of relationships between a plurality of states and a plurality of features.